III. REMARKS

1. Claims 1, 9, 22-24 are amended. Claims 29-31 are new. Applicants appreciate the Examiner's indication of allowable subject matter, but submit that the claims are allowable in their present state for the reasons set forth below.

2. Claims 1, 9 and 22024 are corrected to address the informalities and 35 U.S.C. §112, second paragraph issue noted by the Examiner. The changes are not limiting or made for reasons related to patentability.

3. Claims 27 and 28 are cancelled to address the rejection under 35 U.S.C. §101.

4. Tavor does not anticipate claims 1, 2, 4-6, 10, 17-20 and 22-28 under 35 U.S.C. §102(b).

First, Tavor does not disclose or suggest "defining rules relating answers associated with the questions to product feature constraints" as is recited by Applicants in claim 1. In Tavor, the answer to the question relating to diamond carats is used in the Tavor system to DIRECTLY reason about the suitability recommendability) of products NOT to deduce product feature constraints (or actually, more precisely, product preferences such as "processor speed = 300 => Utility 0.3"). These are exactly the main innovations compared to the prior state of the art (1) rules relate question answers NOT to products, but to product features (advantage: the product set can change, the rules need not change) (2) rules do not specify hard constraints on features but specify the existence of preferences, that is, instead of saying professional users MUST have a processor that

has more than 700MHZ we can say 400MHZ has a utility of 0.2, 500MHZ has Utility of 0.3, etc. An advantage here is that instead of black-and-white reasoning about product suitability, grey-level reasoning and inclusion of different opposing perspectives becomes possible. Of course such a more fine-grained specification requires a more sophisticated algorithm for determining the next question, and this is exactly what the present patent application describes. The particular additional innovation of the algorithm is that it considers not only the buyers or the sellers utility but enables a parameterized balance between both.

The Examiner cited reference to column 6 line 10-15. This portion of Tavor does not disclose or suggest question selection based on scores, but actually talks about presenting one or more products to the user.

The LookAhead module of Tavor does not simulate what would happen if a certain answer would be given what would happen if a certain answer would be given to determine a question score! INSTEAD, LookAhead is a function that is run AFTER the user has provided a new answer. LookAhead then checks all rules whether they fail (which excludes them from the list of considered rules) or whether they succeed and the product listed in the action part of the rule can be recommended. While doing so LookAhead might also encounter "comments"-conditions that might lead to the additional display of information to the user (however, it is not clear whether this output would be shown in the LookAhead processing mode). In general, processing in the Tavor system is done in a typical state-of-the-art backward processing mode: (1) A list of rules to "proof" is obtained (these might either be all rules of a "department", or the rules that were indicated as being related to "preferred products." NOTE THAT THIS ASSOCIATION IS DONE BY

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HAND BY THE PERSON SPECIFYING THE RULES NOT AT RUNTIME (2) the first rule from the list is taken and processed until missing information is found (3) if the user is in "quick" mode the question is asked immediately (4) the acquired info is used by "look ahead" to try to "fire" any other rule in the rule list (5) after look ahead is done, the processing of the original rule continues until it is either proven (and the associated product recommendation can be made) or disprove and processing continues to the next rule in the list.

Significantly, unlike Applicants claimed invention, Tavor does NOT have any module that reasons in any way about what question is the next best to ask! As in any traditional backward-chaining system, the ordering of rules and their placement in rule-sets with differing priority is completely determining the sequence of questions to be asked. Their inclusion of the look-ahead function is nothing but a temporary switch to a forward chaining mode of rule processing. Such a temporary switch is known and was available already in the KEE expert system shell in the early 80's.

Secondly, Tavor does not disclose or suggest calculating "question scores (Q_s)" as recited by Applicant in claims 1 and 24. Claim 1 recites, and similarly claim 24, that rules are defined relating answers associated with to questions to product feature constraints, "to calculate question scores (Q_s) for respective said questions." A discussion of "question scores (Q_s)" is found in the specification, for example, on page 15, lines 9-26. Herein it is described that the QA planner uses the answer scores to calculate question scorer Q_s for each question. A "question score" for a given question is calculated by summing the answer scores for the answers associated with that question

after first weighting each answer score, according to the answer probability specified for that answer (pg. 15, lines 19-23).

Tavor does not calculate or disclose "question scores" as described and claimed by Applicant. Rather, all that Tavor discloses is decomposing the user's answer into a fragment and determining if the fragment satisfies a rule. The rules are logic tested and can return a value "TRUE" is all the processing of the sub-conditions returns TRUE (Col. 5, line 66 to Col. 6, line 9). This is not the same as calculating a "question score" as claimed by Applicant.

Furthermore, claim 1 goes on to recite that the "the question score (Q_s) for each question is dependent on one of (a) the product scores of any products excluded from said set if said rule relating to an answer associated with that question is effective, and (b) the product scores of any products retained in said set if said rule relating to an answer associated with that question is effective; and selecting the question to be presented to the user in dependence on said question scores (Q_s)." This is not disclosed or suggested by Tavor.

In Tavor, if the logic testing of the rules returns the value TRUE, the <u>product</u> is recommended to the user (Col. 6, lines 9-12). There is no disclosure in Tavor of calculating "question scores" that depend on "product scores" of products "excluded" from the set or "product scores" of products "returned" in the set, and then "selecting the <u>question</u> to be presented to the user in <u>dependence</u> on said <u>question scores</u> (Q_s)."

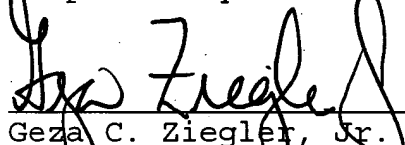Therefore, Tavor does not anticipate claims 1 and 24.

Claims 2, 4, 6, 10, 17-20 and 22, 23, 25 and 26 should be allowable at least by reason of their respective dependencies.

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5. Claims 7, 8, 15, 16 and 21 are not unpatentable over Tavor in view of Heckerman under 35 U.S.C. §103 (a). These claims should at least be allowable by reason of the respective dependencies of claim 1.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record, and are in proper form for allowance. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

The Commissioner is hereby authorized to charge payment of $190 for additional claim fees together with any other fees associated with this communication or credit any over payment to Deposit Account No. 50-0510.

Respectfully submitted,

Geza C. Ziegler, Jr.
Reg. No. 44,004

11 MAY 2004
Date

Perman & Green, LLP
425 Post Road
Fairfield, CT   06824
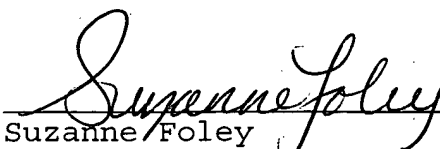(203) 259-1800
Customer No.: 2512

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I hereby certify that this correspondence is being deposited with the United States Postal Service on the date indicated below as first class mail in an envelope addressed to the Commissioner of Patents, P.O. Box 1450, Alexandria, VA   22313-1450.

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Suzanne Foley